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State of Oregon
Department of Environmental Quality

Memorandum

To: Kristine Koch, US EPA

Date: May 9, 2007

Through: Jim Anderson, Portland Harbor Manager

From: Tom Gainer, Project Manager

Subject: Source Control Decision
Port of Portland Terminal 5 Site
15540, 15550, and 15660 N. Lombard, Portland, OR
ECSI #1686

The Port of Portland (Port) conducted a Preliminary Assessment (PA) at their Terminal 5 (T5) facility. The primary focus of the PA was to determine if the subject site is a current source of contamination to the Willamette River. Based on its review of the PA, the Department of Environmental Quality (DEQ) concludes that the Port T5 facility does not appear to be a current or reasonably likely future source of Willamette River water or sediment contamination.

Site Description and History

Terminal 5 is located in the Rivergate Industrial District of north Portland (Figure 1). The site is located between River Miles 1 and 2 on the east bank of the Willamette River, immediately downstream of the Portland Harbor Superfund Site Study Area; therefore, there are not likely complete migration pathways from Terminal 5 to the Study Area.

The property was undeveloped prior to 1975. Between 1964 and 1973, portions of the area were filled in preparation for development. Three tenants currently operate facilities at Terminal 5: Portland Bulk Terminals, LLC (PBT), Tenex Management Limited (Tenex), and Columbia Grain, Inc. (Figure 2). Alcatel Submarine Network (Alcatel) operated at Terminal 5 from 1988 through 2001 when it shutdown its fiber optic cable plant. The facility was unused until February 2006 when Alcatel assigned its lease to Tenex.

PBT. The PBT facility covers 141 acres. Improvements on the PBT facility were constructed beginning in 1982 to handle coal. However, the facility was never used, and in 1996 the improvements were reconstructed to handle export of bulk minerals (primarily potash (potassium chloride), a common additive to fertilizer, but also small amounts of urea, sulfate of potash, and soda ash). Minerals arrive at the facility in rail cars and are loaded into a covered storage building and then to ships at Berth 503 via conveyors. The covered conveyance system is equipped with dust suppression and collection equipment. The conveyor washing system discharges to the sanitary sewer.

A storm drain system consisting of two drainage basins drains about 80 acres of the PBT facility (Figure 2). The southern basin covers over 70 acres. Of that total area, 10 acres consists of paved roadway and 6 acres is covered with the storage building. The remaining 54 acres are unpaved with the surface primarily gravel (e.g., railroad ballast) or grass. The ground surface is



relatively flat with little chance of surface erosion. The storm drain system for the southern basin consists of surface ditches that lead to a nearly two acre settling pond (Figure 2). The pond discharges to a ditch that leads to a sedimentation manhole, a sampling manhole, and finally to outfall RG13PP on the Willamette River. The northern basin covers about six acres and is entirely paved or covered with small buildings. Storm water drains to a perimeter ditch that discharges to the sampling manhole and then outfall RG13PP.

Historical assessments identified small issues that were addressed: an empty above-ground diesel tank; storage of oil, gasoline, and paint in a trailer; and a non-PCB mineral oil release from a transformer. The former Blue Lagoon (see page 4) was historically a potential source of metals. However, the former Blue Lagoon area did not drain to the storm water system, and the area has been filled so it can not come into contact with storm water.

Alcatel/Tenex. In 1988, the Port entered into a 30-year lease with Alcatel of about 15 acres for the purpose of manufacturing fiber optic submarine cable. From 1988 through 2001, Alcatel manufactured and exported fiber optic cable. Alcatel performed all manufacturing indoors and cable was loaded onto ships at Berth 502. The location was unused from 2001 until 2006. In February 2006, Alcatel assigned its lease to Tenex. Tenex is a material supplier, primarily to the steel industry.

Over 80 percent of the Tenex parcel is paved or covered with the building. All industrial activities conducted by Tenex are performed indoors. The facility has a storm drain system that collects almost exclusively the building roof drainage and discharges through one outfall, STSOUT269, to the Willamette River (Figure 2).

The PA did not identify any source areas at the Alcatel facility. Historical assessments identified small areas of surface soil stained with petroleum hydrocarbons. That soil (about 30 cubic yards total) was removed and disposed of off-site in a landfill. The locations where that soil was removed are now beneath the facility building.

Columbia Grain. The grain terminal was constructed in 1975. It covers 42 acres and includes one berth in the Willamette River (Berth 501). Grain moves through this facility by barge, rail, or truck. Hydraulic equipment used to move the grain contains food grade oil (not petroleum hydrocarbons). The facility has about ten acres of paved surfaces and two acres of buildings. A storm drain system is present that collects storm water from the paved and building-covered areas of the facility (Figure 2). Unpaved areas do not drain to the storm drain system. Storm water discharges to the Willamette River through two outfalls (RG11PP and RG12PP).

The PA did not identify any source areas at the Columbia Grain facility.

Regulatory History

Storm Water

There are five stormwater outfalls to the Willamette River from the Port T5 site (Figure 2). The PBT and Columbia Grain facilities are permitted to discharge storm water under General 1200-Z NPDES permits; since Tenex does not conduct manufacturing or other industrial activities

outdoors, no operation-specific storm water permit is required. In accordance with these permits, these facilities have prepared and implemented storm water pollution control plans (SWPCPs) that include storm water BMPs. PBT and Columbia Grain are in compliance with their storm water permits, and there have been no recent benchmark exceedances during permit-required sampling of storm water discharges.

Historically, there have been two Notices of Non-compliance for total suspended solids at the PBT facility.

- On June 26, 1998, the DEQ issued Notice of Non-compliance #WQ-NWR-98-052 for high total suspended solids (TSS; 210 mg/L versus a permit benchmark of 130 mg/L; DEQ, 1998). According to a letter from Hall-Buck Marine (HBM) to DEQ, a resident beaver had built a dam at the Stormwater Pond discharge. Removal of the dam resulted in turbidity in the water, which may have coincided with the sampling event (Hall-Buck Marine, 1998). Additionally, the area around the sampling manhole was graded to avoid accidental soil introduction into the stormwater conveyance system.
- On January 15, 1999, the DEQ issued Notice of Non-compliance #WQ-NWR-99-008 for an elevated TSS result. A December 31, 1998, sample had 55 mg/L TSS. According to a letter from Kinder Morgan to DEQ, heavy rainfall contributed to erosion from unlined drainage ditches. Erosion controls were added in ditches and around ditch drains. A footnote to this letter from Kinder Morgan pointed out that there had been no outdoor product storage since their operations began, but two TSS exceedances had occurred within the prior eight months (Kinder Morgan, 1999a).

Underground Storage Tanks

An underground storage tank, located on property leased to Columbia Grain, was removed during May of 1998. The tank was a 3,000 gallon diesel tank. The DEQ file number is 26-98-0752. No environmental concerns were evident at time of removal, and DEQ issued a no further action determination.

Hazardous Waste

PBT is not a hazardous waste generator. Alcatel was a large quantity generator with the following waste streams reported in 2001: photo fixer silver solution, petroleum naphtha, monoethanolamine, toluene cadmium paint, nonhalogenated solvent, waste solids containing acetone and isopropanol, and waste propane cylinders. A 2007 DEQ hazardous waste inspection of this facility (now Tenex) found no violations. Columbia Grain has been a conditionally exempt generator since 1997.

Hazardous Substance Releases

PBT. In 1995, vandalism resulted in the loss of 200 to 300 gallons of mineral oil from a 2,200 gallon transformer located in the southwest portion of the PBT parcel. A sample of the mineral oil collected from the transformer was analyzed and found to contain non-detectable levels of PCBs. At the time that the vandalism was discovered, a small, older spill located east of the transformer was observed. The transformer was removed one day after the release was discovered. The Port collected soil and groundwater samples during and following cleanup activities. Spill cleanup involved the removal of approximately 25 cubic yards (CY) of soil to a

depth of 4 feet below ground surface (bgs) and pumping of 1,200 gallons of water from the excavation. Groundwater was encountered at a depth of 3 feet bgs. Impacted soil in the vicinity of the smaller, older spill was also removed to a depth of 2 feet bgs. Soil samples collected from the bottom of each excavation and from the sidewalls of the larger excavation all contained TPH at concentrations at or below 20 mg/kg.

Blue Lagoon

The Blue Lagoon was a body of water used by Oregon Steel Mills (OSM) as a source of cooling water. OSM used water from the Blue Lagoon to cool slag; water was returned to the lagoon via a drainage ditch located on OSM property. The Blue Lagoon was approximately 4 acres in size. It was contiguous with the southwestern margin of Terminal 5. The lagoon property was originally owned by the Port. In 1975, OSM purchased the lagoon property. The Port subsequently repurchased the lagoon property in 1981. However, OSM continued to use the lagoon until 1994. As of 1985, the banks and bottom of the Blue Lagoon were covered with a fine, white, powder-like material and the water was crystal clear with a distinctive green tinge. When OSM first started operating the lagoon was twice the size it was in 1985 and it extended further in a southerly direction.

Site investigations were conducted by the Port in 1994-95. Subsurface soil investigations in 1994 and 1995 collected a total of six samples from the buried sediment layer within the former lagoon. Analytical results showed concentrations of barium, chromium, copper, lead, mercury, nickel, zinc, and Arochlor1248 that exceed DEQ SLVs for terrestrial receptors. In 1996 the Port filled the Blue Lagoon with sand from a pile of fill material placed on the property as surcharge. Although this buried contaminated lagoon sediment is not currently accessible to terrestrial receptors, potential future excavation of this material could result in ecological exposure if the excavated soil was not managed properly. The Port instituted a *Contaminated Area and Media Management Plan* in February 2006 to protect potential future exposure to impacted groundwater and buried sediment.

Groundwater monitoring in December 2005 showed groundwater flow towards the south to west-southwest, consistent with previous measurements (Figure 3). Although on-site concentrations of metals (Table 1) are elevated above DEQ Joint Source Control Strategy screening levels values, concentrations are stable and the estimated groundwater travel time from the former Blue Lagoon 1,200 feet to the Willamette River is approximately 40 years. Groundwater monitoring in adjacent downgradient OSM wells do not show a plume of concern. OSM monitoring well MW-20, immediately downgradient of the former Blue Lagoon and likely the only downgradient OSM well not potentially impacted by other OSM activities, showed only trace concentrations of manganese and other metals in two 2005 monitoring events (Figure 4 and Table 2). OSM concluded that the former Blue Lagoon does not appear to be a significant source of metals in groundwater at their site (*Source Control Evaluation Report- Metals in Groundwater*, OSM, May 12, 2006).

Alcatel/Tenex. On July 8, 1988, approximately 30 cubic yards of contaminated soil due to minor petroleum surface soil staining were removed from the Alcatel parcel and disposed in an off-site landfill.

Source Control Evaluation

Sediment sampling was conducted adjacent to Terminal 5 on several occasions from 1995 to 2000, incidental to maintenance dredging at facility berths. Based on a review of sediment data, site operations and historic spills and/or hazardous substance releases, there does not appear to be significant sediment contamination adjacent to the subject site that is related to site activities.

The only known groundwater impacts at the subject site are in the vicinity of the former Blue Lagoon. Migration of moderate metal levels in groundwater to the Willamette River is estimated at least 40 years. Therefore, the groundwater contaminant pathway between the Port T5 site and the Willamette River is not complete.

The Portland Harbor Superfund Site study area, encompassing RM 2 to RM 11, is upstream of Terminal 5. The stormwater outfalls from Terminal 5 flow to the Willamette River between River Miles (RM) 1.1 to 1.4 (Figure 2). The Terminal 5 outfalls are located downstream of the Portland Harbor Superfund Site Study Area, and therefore, there is not likely a complete pathway from Terminal 5 to the Study Area via the storm water system. In general, there are no known releases or current operations that would significantly impact stormwater.

Summary of Source Control Decision

The following conclusions are based on review of DEQ files and information prepared as part of Port T5 PA:

- The stormwater pathway is not complete due to current site operations and no known historical site releases that could impact stormwater.
- There are no current or reasonably likely future on-site groundwater contaminants that could migrate to the Willamette River.
- The site is located downstream of the Portland Harbor Study Area, so there are no likely migration pathways from the site to the Portland Harbor Study Area.

DEQ's Source Control Decision is that this site is not a current or reasonably likely future source of contamination to the Willamette River and that no source control measures are required at this time.

Project Submittals

Preliminary Assessment, Port of Portland, September 7, 2000.

Groundwater Monitoring Report, Ash Creek Associates, January 2006.

Contaminated Area and Media Management Plan, Ash Creek Associates, February 6, 2006.

Stormwater Evaluation, Port of Portland, October 12, 2006.

Attachments: 2 Tables
4 Figures